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Biotin-silane compounds and binding matrix containing these compounds.

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Cited documents:

 WO9210757
 EP0337081
 EP0325404
 DE4018523

Abstract of EP0664452

A novel binding matrix (BM) consists of a carrier material (CM) having an oxide surface on which solid phase reactants (SPR) are covalently bonded via anchor gps. (AG). SPR can bond with one or more free reaction partners (FRP). The novel features are that SPR form a dilute and laterally homogeneous binding layer on the surface of CM; and that AG are silane gps. linked with SPR via a spacer molecule. Silane cpds. of formulae (III) and (IV) are new: R1-R4 = substituents, where at least one of R1-R3 in (III) or at least one of R1-R4 in (IV) can form a covalent bond with an oxide surface; Sp = flexible, linear spacer molecule with a chain length of 2-50 atoms; X1-X3 = SPR or 1-4C alkoxy-oligo-2-4C alkylene oxide) (AOAO) gps., covalently bonded to Sp. Also claimed are: (a) compartmented binding matrices (CBM), consisting of CM carrying several BM's (as described above) in spatially sepd. regions; (b) analytical elements consisting of BM or CBM covered with one or more additional layer(s) of reaction partners; (c) determ. of an analyte in a sample by a specific binding reaction between SPR and FRP, using BM or CBM as SPR; (d) a method for reducing non-specific protein binding to an oxide surface, by reacting the surface with (III) or (IV) where X1-X3 = AOAO gps.; and (e) articles with an oxide surface, where at least part of the surface is covered with a binder layer obt'd. by reacting the surface with (III) or (IV) where X1-X3 = AOAO gps.